California GARDEN

MAY — JUNE 1978
VOLUME 69, Number 3
Fifty Cents

SAN DIEGO FLORAL ASSOCIATION

ANNUAL MEETING
Covered-Dish Dinner---Installation of Officers
A fun-filled evening with
"The Galley Slaves"
directed by Laura Huey
Casa del Prado, Majorca Room, Balboa Park
Tuesday, June 20th, 6:30 p.m.

May 7 & 21	KING TUT TOUR; departs Balboa Park (Organ Pavilion parking lot) at 5:15 a.m., and from the La Jolla Library (Wall St. & Girard Ave.) at 5:45 a.m.
May 20	SPRING FLOWER FESTIVAL; Mira Mesa Mall (Mira Mesa Blvd. & Camino Ruiz) 10:00 a.m. to 4:00 p.m.; sponsored by San Diego Floral and Mira Mesa Mall with participating clubs---Chula Vista Garden Club, The Village Garden Club of La Jolla, Pacific Beach Garden Club, The Bernardo Gardeners, The Vista Garden Club, The African Violet Club, The Lakeside Garden Club, and The San Carlos Garden Club.
June 21 thru July 4	CALIFORNIA GARDEN EXHIBIT & MAGAZINE SALES TABLE; Southern California Exposition (Garden Section) Del Mar, Calif.; 10:00 a.m. to 6:00 p.m. daily.

SHOWS

May 6 & 7	SAN DIEGO–IMPERIAL COUNTIES IRIS SOCIETY presents "SPRING MAGIC" SPRING SHOW Majorca Room, Casa del Prado, Balboa Park; Saturday 1:00 to 5:30 p.m. & Sunday 11:00 a.m. to 5:30 p.m. Free
May 6 & 7	VISTA GARDEN CLUB STANDARD FLOWER SHOW "SYMPHONY OF FLOWERS"; Vista Recreation Center, 160 Recreation Dr., Vista, Calif.; Saturday 1:30 to 5:00 p.m. & Sunday 10:00 a.m. to 4:00 p.m. Free
May 7	QUAIL PARK "FUN AND FUNDS FESTIVAL"; Ecke Building, Quail Park, Encinitas, Calif. Sunday 10:00 a.m. to 4:00 p.m. Free
May 14	SAN DIEGO EPIPHYLLUM SOCIETY presents "POLYNESIAN PARADISE" SPRING SHOW Majorca Room, Casa del Prado, Balboa Park; Sunday 11:00 a.m. to 5:30 p.m. Free
May 20 & 21	SAN DIEGO GERANIUM SOCIETY SHOW; Majorca Room & Room 103, Casa del Prado, Balboa Park Saturday 12:00 to 5:00 p.m. & Sunday 10:00 a.m. to 5:00 p.m. Free
May 20	SPRING FLOWER FESTIVAL; Mira Mesa Mall corner of Mira Mesa Blvd. & Camino Ruiz Saturday 10:00 a.m. to 4:00 p.m. Free
May 20 & 21	POWAY VALLEY GARDEN CLUB'S STANDARD FLOWER SHOW; Meadowbrook School, Meadowbrook Lane at Pomerado Rd., Poway, Calif.; Saturday 1:00 to 5:00 p.m. & Sunday 10:00 a.m. to 4:00 p.m. Free
May 20 & 21	ESCONDIDO GARDEN CLUB SHOW; Wild Animal Park, Escondido, Calif. Park hours: 9:00 a.m. to 5:00 p.m.
May 24 & 25	POINT LOMA GARDEN CLUB'S ANNUAL SPRING SHOW; San Diego Federal Savings & Loan Building, 1110 Rosecrans Ave.; Wednesday 10:00 a.m. to 3:00 p.m. & Thursday 9:00 a.m. to 3:00 p.m. Free
June 3 & 4	SAN DIEGO CACTUS & SUCCULENT SOCIETY'S ANNUAL SHOW; Majorca Room, Casa del Prado, Balboa Park Saturday 12:00 to 5:00 p.m. & Sunday 10:00 a.m. to 5:00 p.m. Free
June 17 & 18	SAN DIEGO FUCHSIA & SHADE PLANT SHOW; Majorca Room, Casa del Prado, Balboa Park Saturday 12:00 to 5:00 p.m. & Sunday 10:00 a.m. to 5:00 p.m. Free
June 24 & 25	BALBOA PARK AFRICAN VIOLET SHOW; Majorca Room, Casa del Prado, Balboa Park Saturday 12:00 to 5:00 p.m. & Sunday 11:00 a.m. to 5:00 p.m. Free
July 1 & 2	NATSUKO TANAKA presents an exhibit by her pupils in the OHARA SCHOOL OF IKEBANA Majorca Room, Casa del Prado, Balboa Park; Saturday & Sunday 11:00 a.m. to 5:30 p.m. Free
July 9	THE SOWEST HEMEROCALLIS SOCIETY ANNUAL SHOW; Majorca Room, Casa del Prado, Balboa Park Friday 10:00 a.m. to 4:30 p.m. Free

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COVER: The drawing on the cover is from a collection of paintings donated to San Diego Floral by Kathleen Crawford. Mrs. Crawford's paintings have achieved national recognition and have been widely shown.

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EPIPHYLLUM

by Gene Schmedding

Mrs. Schmedding is a charter member of the San Diego Epiphyllum Society and has been growing epiphyllums successfully for many years.

COME WITH ME for a few minutes into the wonderful, beautiful world of the epiphyllum. Over the years these plants with the gorgeous bloom have been called by many names, among them orchid cactus, phyllocactus and rhyllocereus.

Since the formation of the Epiphyllum Society of America, epiphyllum has been established as the correct name for these unusual members of the cactus family.

Epiphyllum means "on the leaf." The blooms come out along the edge of leaflike branches, formerly believed to be leaves. Through hundreds of years of adaptation the true leaves have been reduced to small scales on the neck of the bloom. Epiphyllums are native to the jungles of Mexico and South America where they grow in crotches of trees as do many orchids. Hence the common name orchid cactus.

Drawing by M. F. HOFF

Their native growing habit gives us a clue to the kind of culture they require when we grow them around our own homes. We should try to duplicate their jungle habitat as closely as possible. If your growing area permits, hang the pot so the epiphyllum can take advantage of circulating air. They should be in either a shade house or a sheltered area. As jungle plants they prefer semi-shade, a moist, fast-draining mix on the acid side, and a pot not too large since their root system is quite small for the size of the plant.

Some kinds of epiphyllums tend to grow upright; these can be tied to a stake or trellis in the pot. And then there are the very fragrant night blooming ones, commonly called cereus. These will climb on a fence or wall, as they have "fingers" that cling to the support in the same way as they cling to tree trunks in the forest. There are several kinds of cereus. *Selenicereus grandiflorus, S. macdonaldiae, S. pteranthus* and *Hylocereus undatus* are a few of the climbing ones. These all have huge white fragrant blooms which start to open around nine o'clock in the evening and open to their fullest about midnight. By morning, they are completely closed.

Epiphyllum oxypetalum and *E. strictum*, with its wheel-shaped 3-inch bloom, do not climb. *E. strictum* will hang beautifully in a basket. It and *E. oxypetalum* have the same type branches as the hybrid day-blooming epiphyllums.

The upright, round candlelike growth of *Nyctocereus serpentinus* (commonly written as Nyclocereus) makes it a little unusual among the night bloomers. Its blooms are white and wheel shaped, similar to a daisy.

No epiphyllum collection is complete without at least one of the night bloomers.

I know of no other flower that blooms in as many sizes and colors as the epi. In size the flowers range from the 1½-inch 'Pete's Snowflake' to the

huge 12 to 14 inch 'Pegasus'; the colors--every color and combination of colors that one could think of except blue, and the hybridizers are working on that. There are even pale green ones, 'Pistachio,' and 'Green Ice.' There are wide petals, narrow petals, round petals, pointed petals, oval petals; there are single flowers, double flowers, and a few such as the lovely pink 'Tassel' with so many narrow petals that they look like pom-poms.

For a flower so lovely, epiphyllums are remarkably easy to propagate. If you want another plant exactly like one that you have, you must start with a cutting. A 6-inch cutting placed 1 or 2 inches deep in moist potting mix will soon take root and in 2 years will be a blooming plant. Or you can tip-root by pinning the tip of a branch down so it touches potting soil in another pot. Soon you will have a new shoot. Be sure it is firmly rooted, then sever the branch tip and leave the small plant in your starting pot. Voila! there is no transplant shock.

Sometimes a cutting that is hard to start by the usual method will root in a glass of water with a few drops of liquid fertilizer and a few grains of charcoal. Every epiphyllum lover has one particularly hard to start, hard to keep going treasure. Try water-rooting, you might be surprised. I've started several in water that I simply could not get going any other way. I've been able to save stock of a couple of plants that I was particularly fond of, not only for their beauty but for their sentimental value.

Starting from seed is a fun thing, but you must not be in a hurry, as it takes about 5 years from seed to produce a blooming epiphyllum. Even then it is kind of like Christmas, you never know what you will get. Seeds from a bright red one, such as 'Vive Rouge,' or any other color flower, will probably produce about 80 percent white blooms. The other blooms could be pink, yellow, purple, red, or multicolored, and round, flat, or cup-shaped.

A general basic potting mix that I use for many of my plants is:

4 measures of good potting mix
1 measure of pea-size charcoal
1 measure of sponge rock
1 measure of leaf mold.

This may be varied according to your environment. For the cooler coastal areas you may want to add a little more sponge rock or for warmer and drier areas use less sponge rock. Place fir bark in the bottom of the pot instead of shards or rocks for drainage. It is lighter and has proven very satisfactory.

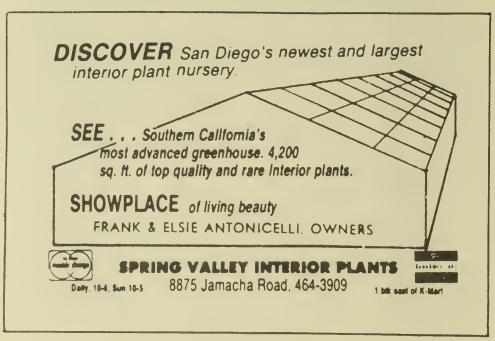
There are endless ways to mix your potting medium. If your plants do you credit, and get admiring glances when in bloom, then you are using the mix that is best for your area. The same theory applies to fertilizing and watering. Successful methods will vary in different areas, as your plants needs vary.

Do keep your plants tidied up. By trimming off branches that are unshapely and scroungy looking, you will be rewarded by nice new healthy growth. Many of the worst looking branches can be saved to make excellent cuttings. If the tip has dried up, cut it off. If you have 6 inches of good material, you have the foundation for a sturdy plant.

Give them a rest, then 3 months after blooming start fertilizing with fish emulsion or other all purpose fertilizer with nitrogen content no higher than 8 to 10. In late January or February start feeding them a low nitrogen (2-10-10) fertilizer to encourage bloom. If you have questions about culture, varieties or other information, visit the Epiphyllum Society and their shows in your area.

By all means, talk with your plants. They will let you know if they are happy with their living conditions.

For the beginner some of the easiest to grow are: Red 'Vive Rouge' and 'Scarlet Giant,' multicolored 'Hermosissimus,' the never-fail pink 'Padre,' orange 'Gloria,' and the beautiful white with yellow-tipped petals, 'Marina Special.' These are just a few of the kinds of epiphyllums that will satisfy the beginner's urge to grow these fascinating flowers. □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Bonsai Observations

by Dr. Herbert A. Markowitz

"From my early youth I have had the strongest desire to understand or explain whatever I observed."
...Charles Darwin

MY FIRST OBSERVATION of a miniature tree was in Japan about 35 years ago. It was an outstanding example of a rugged pine tree, probably more than 100 years old, maintained in a shallow pot on a wooden stand. Although this tree was located in a small alcove in an Inn I felt a strange sensation of being in a cool forest glade with wind sighing in the trees and the odor of pine needles filling the clear air, far from the city and the war.

Chinese Evergreen Elm *Ulmus parvifolia* 9 yrs

OBSERVATION #1

Bonsai (bone-sigh) are in fact miniature trees. The word comes from the Japanese words "bon" meaning tray, and "sai" meaning tree. Some are collected from their natural habitat and raised in pots or trays. Others are grown from seed, from cuttings, or from nursery stock.

Whatever the source, miniature trees are raised in accordance with well established horticultural principles. The trees are kept small, healthy and beautiful by pruning them to the desired size and shape, by keeping their roots moist (not wet), by feeding them periodically, and by cutting back the roots periodically so that the plants do not become root bound.

The next time I saw a bonsai was 10 years later in an apartment in New York City. In contrast to the ones in Japan this tree was a terrible specimen. No forest glade here! Reputedly an evergreen (a cedar I believe), its needles were brown and yellow---most of them were gone; obviously it was dying. I pointed this out to my host; he agreed. He stated he'd had the tree about 8 months, kept it in his air-conditioned apartment and watered and fertilized it regularly. He could not understand why it had died. There was talk of taking it back to the nursery where he had bought it.

OBSERVATION #2

Bonsai are not indoor plants; they are miniatures of naturally occurring trees. Their existence depends on an outdoor environment and they thrive only when cared for under conditions based on sound horticultural practice.

In recent years there have been various studies to prove that trees and shrubs of almost all varieties and species can be grown indoors. These studies indicate only that you can, at great expense of time, money and electrical power, create an outdoor environment indoors. And with great diligence, you can in fact keep some bonsai alive in this artificial environment.

Unless you are prepared to spend much money to buy special lighting facilities and create an area with conditioned and properly humidified air and complex plumbing facilities, don't plan to keep miniature trees indoors. You should also be aware that even under expertly controlled conditions they do not thrive indoors for more than a brief period, say 3 or 4 days. There are exceptions to this observation but not many. *Ficus benjamina* is one.

My first experience in creating and raising a bonsai was outstanding only from the standpoint that the tree lived for about 2 months. I picked the wrong variety of shrub for my miniature tree, I planted it wrong, and it looked like Charlie Brown's Christmas tree. My wife and friends said it looked "cute." They particularly liked the way I had used rocks and stones in the planting. Actually I had used all those rocks to keep the tree erect—it kept falling out of the pot without them.

OBSERVATION #3

Although almost any tree or shrub can be used to create a bonsai there are species that lend themselves better to this art form than others. For the novice in California, the Chinese juniper, *Juniperus chinensis*, is an ideal subject. The 'San Jose' variety is best; it's almost foolproof. The trunk of the 'San Jose' develops the appearance of age within a few years; its needles are small and in proportion to miniature tree size. It tolerates root pruning and its branches withstand bending, twisting, and wiring better than most other trees.

OBSERVATION #4

It must be clearly realized that many bonsai are very old—there are trees that have been cultivated as bonsai for more than 300 years. Creating the illusion of old age is the key to the art of bonsai. A young seedling can be made to look aged if proper bonsai techniques are used. Trunk and branch wiring, twisting and bending of branches, pruning of leaves and branches, carving the bark from trunk and branches, proper placement in the pot, and many other techniques are employed to create the appearance of age. I am pleased when someone asks how old one of my trees is because most of my trees are younger than I am.

Juniperus procumbens 'Nana' - 10 years

Ginkgo biloba - 15 years

OBSERVATION #5

Root pruning is a very important part of the miniaturization procedure. Judging how much of the root system to remove to make the tree fit the pot and yet grow vigorously is really not very critical. For most trees about one half to two thirds of the root system can be removed safely if this is done at the proper time of the year and if the roots are properly handled and not allowed to dry out.

OBSERVATION #6

It is of utmost importance that the roots be given the proper environment for survival. The key to survival for all living things is a favorable environment, not only the environment of the foliage of the tree, but also the environment of the root system---the soil in which the tree is planted.

The limited space in a bonsai pot demands that special attention be paid to the composition of the planting medium. Plants absorb water and nutriments by means of the fine hair-like processes on the feeder roots. If the roots are too tightly packed in fine textured soil rich in organic matter there can be no free capillary flow of water and thus no exchange of oxygen and carbon dioxide. The result is that photosynthesis, the life-giving metabolic process, can not be carried out and the plant dies. The obvious answer is to use a coarser potting soil which allows the exchange of oxygen and carbon dioxide through the root system. However, too coarse a planting medium will not retain enough moisture to serve the purposes of photosynthesis and the plant or tree will suffer because of a lack of moisture retention. Therefore the ideal soil mixture (which varies with species) is one that retains enough moisture for proper metabolism but does not asphyxiate the root system. For bonsai the ideal "coarsening" material is decomposed granite. This is added to the planting medium in various grades of particle size and density for different species of trees. Where decomposed granite is not available other porous materials such as perlite or vermiculite may be added to the soil mixture. A caution regarding vermiculite---it may get soggy and retain too much water. An additional requisite is that the soil be thoroughly disbursed throughout the root system. There must be no air-pockets or dead spaces where root-rot can occur.

Fertilizers for bonsai should ideally be of the organic variety; blood and bone meal have been traditionally used as the basic staple for centuries. Fertilizer can be applied in solid form as a slow leaching solid in cake or powder form, or suspended in liquid for more rapid penetration of the soil and absorption by the root system.

The Japanese say it takes at least three years to learn how to water bonsai. This may actually be an optimistic estimate. Various trees require watering schedules and the schedule varies with the time of year and climatic conditions.

OBSERVATION #7

In Southern California, except during the rainy period, almost all bonsai require daily watering. During certain rain periods and along the coastal areas bonsai may in fact get too much water. Precautions must therefore be taken to prevent this by tilting the pots or covering the soil with waterproof sheeting material. An additional safeguard to prevent over watering is to use a proper bonsai pot, one that has at least two or three drainage holes in the bottom. Additionally the lower-most layer of the planting medium should consist of a layer of pea-sized gravel. The more shallow the pot and the coarser the soil mixture, the more frequently the plant needs watering; on hot summer days some species, such as azalea, may require two or three waterings per day. The watering schedule must also be tempered by the location of the bonsai. Those in full sun require more water than those receiving only partial exposure. City water in Southern California has a high saline content and if used continuously can lead to serious absorption problems in the root system. Ideally fresh stream water or rain water is best for bonsai. Many enthusiasts catch rain water for their trees. Another method is to periodically leach the salt build-up from the soil by soaking the potted tree in fresh water.

In the spring all growing things are stimulated to start a new cycle of physiologic processes. Plants and trees awaken from a dormant period (even evergreens take a rest period during the winter months), flower and leaf buds appear on twigs and branches, "the sap flows," rapid growth now occurs---this is the "come alive" period for plants and trees.

上海

OBSERVATION #8

Spring is the time of year when most bonsai can be safely transplanted; it's a good time to gather trees growing in the field; a good time for clipping, pruning, and wiring of bonsai. Although certain species of bonsai require accurate time schedules for transplantation, depending on climatic conditions, the period from March through May or June can generally be accepted as a safe period for most plant species in California.

To derive pleasure from bonsai one can buy an occasional tree or attend exhibits or acquire a collection of trees and actively engage in the culture of miniature trees as a hobby. Additional accouterments such as wooden stands, finely tempered tools, and antique pots enhance the enjoyment of this art form as a hobby.

OBSERVATION #9

Collecting bonsai by buying fully trained trees will satisfy many hobbyists. However, the human desire to be creative and to exhibit one's artistic talents leads to the practice of bonsai culture. Hobbyists become enthusiasts. They travel far and wide to observe trees growing in nature so that they can produce in miniature the beauty of the forest. They collect plants in nurseries and make them into trees. They learn that the culture of bonsai actually involves an art form tempered by horticultural expertise. Healthy trees growing in small pots are objects of beauty only through the proper blending of creative art through the discipline of horticulture. □

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SMALL POLYPODIUMS?

by Margaret and Raymond Sodomka

P. formasanum is distinctive for its bluish-green rhizomes which cling to the outside of the container.

P. formasanum showing foliage and fronds crisp medium-size about 12 to 18 inches.

DO YOU KNOW there are small polypodiums available for your small shade garden?

The polypodium family embraces over a thousand ferns of diverse form and size. The name means "many feet" and these ferns are found all over the world. The name refers to the foot-print left on the rhizome (foot) when a frond breaks off and leaves a scar. The ferns vary in size from the smallest one 1½ to 3 inches long to huge 8 foot fronds. All varieties grow well in a semi-tropical area, either outdoors or in a greenhouse.

The smallest form we grow is *Polypodium vacciniifolium.* This is a fascinating one with its small leaflets, not more than ½ to 2 inches long. They are similar to cranberry leaves from which it derives its name. It has a stringy rhizome the size of binder twine, with straw-colored hairs. This species looks especially handsome on a totem-pole 18 or 24 inches high, twining its way to the top.

Another very small one is *P. venosum.* Its 1½ to 3 inch leaflets are streaked with veines and its rhizomes are pencil-size. Again the name describes the fern's appearance, "conspiciously veined."

In the medium size is *P. formasanum* with fronds 8 to 12 inches long. It is distinctive for its smooth bluish-green rhizomes which cling to the outside of the container in which it grows. This fern comes from Formosa and makes a delightful addition to any garden.

P. polycarpon grandiceps has short waxy fronds attached to many rhizomes. The fronds are about 12 inches long and its leaflets are 2 to 3 inches.

P. scolopendria is quite a handsome plant with 2-foot fronds that are shiny and bright green with dark brown stipes (stems). It comes from Taiwan (Formosa) and has smooth rhizomes with patches of black hair.

P. fraxinifolium has 2 foot fronds similar to the ash leaf, for which it is named. The rhizomes are pencil-size and cling closely to the container.

Among the more familiar larger plants are these interesting ones: *P. crassifolium* is another type

of polypodium fern which has strap leaves or simple fronds. It has a leathery white-spotted wavy frond with an attractive spore pattern on the underside. It reminds one of the paper strips we bought as children with candy spots in a geometric pattern. This native of Mexico has 2 to 3 foot fronds.

P. subauriculatum cv. Knightiae has to be the most popular polypodium in Southern California. Its huge lacy graceful fronds are a magnificent sight to see. It is not hard to grow outside in a wire basket, but it does go dormant in winter. In spring the new croziers (fiddleheads) suddenly appear and before you know it, you have a beautiful filmy fern with 1 to 3 foot fronds. Its parent, *P. subauriculatum*, though not as lovely, has been known to attain 8 feet under greenhouse conditions.

P. decumanum is a native of Peru and has large brown-haired rhizomes, rather long and creeping. The fronds are unusually large.

P. aureum and *P. aureum* cv. Mandaianum have thick fuzzy scaly rhizomes that resemble rabbits' feet as they crawl over the edge of a basket. The name refers to the golden spores on the back of the fertile fronds.

P. musifolium has broad simple leathery fronds which are light green with pronounced veins and another interesting spore pattern. The banana-like fronds grow to 3 feet in length.

P. aureum glaucum is a large, basket-type fern with large fronds covered with a grayish-blue bloom similar to that on Italian plums. The rhizomes are thick and dark brown. This fern contrasts nicely with other shades of green in the garden.

PLANTING AND MIX Always plant polypodiums in a hanging basket lined with a thick layer of sphagnum moss and filled with a good mix. This is the mix we use for all our ferns. In a large container, at least 10 gallon size, add in this order:

1 gallon leaf mold
1/3 cup sponge rock
1/3 cup "milorganite"
1 gallon ¼ inch shredded fir bark
1/3 cup sponge rock
1 gallon ground fir bark or equivalent or redwood compost

Mix all of this thoroughly. We use a spading fork. If you need more mix continue with the same proportions in the same order using a larger container.

Ferns need lime for optimum growth. We save all our egg shells and dry them until brittle in a gas oven with a pilot light or with low heat for a short time. Crumble them finely and add 1 cup to the mix or add the same amount of finely crushed oyster shells that you may buy at any feed store.

After the basket is lined with moss and the mix is added, plant your fern from a 4-inch pot or gallon can without disturbing the root ball.

FERTILIZING Starting in March fertilize once a month through November with only one feeding during the next 3 months. We use one of these listed below:

Blood meal---use 1 teaspoon to 1 gallon of water and add to moist soil early morning or late afternoon.
Pellets---sprinkle 1 tablespoon on each large (12-inch) basket.
Fish emulsion---diluted to ½ strength you may feed this every Friday, an easy way to remember to feed your polypodiums.

WATERING Basic watering is about every third day depending on the weather. In hanging baskets any excess water will drain away.

PESTS The pests that may attack your plants are aphids, mealybugs, and scale. Malathion may be used to control these pests, but read the label carefully to see there is no petroleum base or other restrictions that might affect ferns. Spray late in the evening or early morning to prevent burning. Watch for snails and slugs too.

PROPAGATION From plants that grow fairly rapidly you can cut rhizomes for propagation. Cut the rhizomes 3 to 4 inches long, with or without a frond or leaflets, and seal the cut end with rootone, tree seal, or even flour or cornstarch from the kitchen. Mix equal parts of washed sand such as decomposed granite and peatmoss and wet it thoroughly. Fill a 4-inch pot with the mix and poke 4 holes, 1½ inches deep, with a ½ inch dowel. Insert 1 inch of the cut end of your rhizome into the holes and tamp the mix around them. Set the pot inside a plastic bag, pulling the top together, and tie securely. Hang it on the wall of the patio or set it in the shade outdoors. Check after 2 to 3 weeks to be sure the mix is damp. You may poke a hole in the plastic and water with a syringe. *(Continued on Page 81)*

CORN IS CORNY

CORN IS SO COMMON it rarely commands respect. We dub as "corny" worn out jokes and phrases. We speak of "corn fed" humans as ignorant and rural. But in the United States we raise more corn than all other cereals combined. It is the most important cereal in the Western Hemisphere, but we do not realize that because we feed 80 percent of it to our stock. Most of us eat cornmeal, cornflakes, grits, oil, oleomargarine, and popcorn, but we rarely think about products made from corn—alcohol, starch, flour, and the cellulose from the corn stalks.

In my youth in the South corn bread was "bread." It was stone ground from our own cribs in small amounts so it was fresh and tasted nutty and sweet. Other breads were distinguished by their names. There were biscuits, rolls, flapjacks, corn pone, and spoon bread. Yeast bread was light bread or "moonshine." All breads were served hot, otherwise they were not considered fit to eat.

Because corn is such a big tall plant it is almost a shock to learn it is a grass, as are all of our cereals. *Zea mays*, our cultivated corn, can attain a height of 15 feet or more. Once, while passing through Iowa on a train on a moonlight night, all of a sudden I thought I was going through a tunnel until my eyes got used to the tall corn flashing by my window. I could not even see the tops of the plants, and this went on for hours. The rich Midwest farm land from Ohio to Nebraska and south to Missouri is our corn belt. Corn ranks third in the world as human food, and in our country production reaches 3 million bushels a year. Hybridizers are working on getting a higher yield of protein which is now around 8 to 10 percent. Besides food, one day corn may be called on to produce alcohol to run our automobiles.

Corn is a monoecious plant with both male and female flowers on one plant. The tassel is of male flowers, while the female florets are borne in a cluster arising from the joint of the stalk, called a cob. Covered by a protective husk of leaves, the cob after fertilization develops into an ear of corn. There are from one to three cobs to a stalk, although in some of the high yield varieties there may be more. Pollination is carried out by wind.

When Columbus sailed along the shores of Cuba in 1492, a foraging party from his ship found the natives growing a plant they called Mahiz, whose kernels tasted good and could be dried, pounded into flour, and baked. The South Americans, Mexicans, and other Latin Americans call it maize to this day. Corn was such a basic food for all the Indians of the Americas that they ascribed religious significance to its growth, because a crop failure meant starvation. Magical meanings and myths about its origin became a part of their folklore and culture. Corn was so important in their lives that it led to a skill in growing it which they passed along to the Colonists. They selected the richest plots of land and put a fish in each hill as they planted.

Corn as we know it is far from the wild grass that the Indian domesticated. Most of the corn cultivated by the Indians had blue, black, or even red kernels. We still grow some of this kind for ornamental purposes. Since field corn produces our largest yield, we have spent most of our scientific research on it, but most of us know more about the varieties we eat. There is popcorn, our favorite snack. Growing popcorn in the home garden is a sort of novelty and requires more space than most gardeners have, but it is fun. One plants it in the same way as sweet corn and follows the same culture: Watering, fertilizing, and keeping down the weeds by light hoeing (for roots are shallow). But do not plant popcorn and sweet corn near each other because they will cross pollinate. Since we are expecting kernels for popping, let the small ears (seldom over 6 inches) mature before harvesting and curing them for a few weeks before shelling. Store the kernels in tight containers to re-

tain the moisture which ensures popping. There are two main types of popcorn: The rice type with pointed grains, and the pearl type with rounded grains. Burpee lists four kinds of hybrid seeds.

After I broke a tooth eating ordinary popcorn for breakfast, my dentist recommended a high-priced but excellent brand that pops nearly every grain to about three times the size of the ordinary kind. It is a pearl variety that is grown in Indiana. Since this is a hybrid, it does not come true from seed. One must get seed corn, which I have not found in the seed catalogues.

Then there is sweet corn, which we get in our markets to eat in its immature state. For the home gardener a patch of sweet corn is possible, if there is a plot in full sun and a space for at least 10 rows not longer than 20 feet, so you get ample pollination by the wind. Too few corn plants do not produce well. Sweet corn makes small stalks, 4 to 6 feet tall. Burpee lists 24 white, yellow, and bi-color varieties, and advises successive plantings every 3 weeks, to stretch out the season. In Southern California we can plant sweet or sugar corn from April to September, depending on the location in the garden. It does not do so well on the coast as in the sheltered, warm valleys, for corn is a tropical plant. It needs heat, water, sun, and fertilizer, as it is a heavy feeder.

Before planting, the soil should be thoroughly plowed or dug deeply and laid out in rows. Planting 3 or 4 grains to a hill, 4 to 6 inches apart, is recommended. When the plants are about 4 to 6 inches high they should be thinned to 8 to 10 inches apart. It is better to have blocks of four rows side by side, rather than one long row. This ensures pollination and full kernels. When sweet corn is between 2 and 3 months old the ears should be ready to eat. One must learn the proper stage for plucking it at its best. Watch the color of the husks, which should be dark green and turgid, and the tassels brownish and moist. To make sure, one may pull down the end of the husk and pierce a kernel with the finger nail. If milk spurts out, yank off the ear, dash into the house where there is a pot of boiling water, dump in the ear husk and all, and let it stay 4 to 5 minutes. Strip off the husk and eat immediately. That is the way to enjoy sweet corn at its best, and once you have had it this way, the corn you buy in the market, which is about a week old, will seem tasteless and insipid. Some freshness can be restored by taking off the husks, soaking the ears 15 to 20 minutes in warmish water, sealing in a plastic bag, and putting them in the refrigerator, but a lot of that sweetness is gone forever.

Field corn is edible in its roasting ear state but it is not so sweet. At Fourth of July picnics the farmers of our community used to bring in a wagon load of fresh corn and roast it in the pit on top of the barbequeing beef. This method of cooking must have given us the name "roastin' ears" for fresh corn. As a child I used to join the other children in pulling down the shucks, lathering the hot corn with butter, and happily savoring the flavor and goodness while smearing myself with melted butter.

Is corn really so corny! □

DAYLILIES

by RAY CHESNIK

Photos by Bill Gunther

The author is past president of the San Diego Hemerocallis Society and a nationally recognized grower of hemerocallis.

'Fair Annet' nestled in geranium leaves

EVEN THOUGH daylilies have been around for a long time, for some odd reason Southern Californians have failed to recognize that in our semi-tropical climate they are the finest perennials one can grow. The following is, of necessity, a short compendium of modern daylilies that may be grown in cool coastal gardens.

•Bloom Season

The variations in climate, even within the confines of the populated coastal strip, determine the start of the blooming season. Bloom in the beach area might start in mid-May while farther inland not until mid-June. Whatever the starting time one may have three distinct periods of bloom each year depending upon the varieties---early, mid-season, and late. A combination of these three types produces an extra long season and with the addition of remontant varieties (those with two distinct blooming periods) still more time is added to the season. One should plant some from each of these groups to get a maximum yearly bloom season.

•Time of Flowering

As the name implies daylilies flower for one day. However, one scape may have 10 to 30 buds and a well established clump 10 to 30 scapes per year. That makes for a very showy plant! Since hemerocallis means "beautiful for a day" it may come as a surprise that not all daylilies are day bloomers. They may be nocturnal, diurnal, or extended bloomers. Because all daylilies are insect pollinated, those that bloom at night must be light colored and fragrant. There is little current interest in hybridizing night bloomers, consequently they are difficult to find.

There are great time differences in the flowering of diurnal daylilies. Some will not open until the sun has dissipated the morning coolness or will not open fully if the day is overcast. Other varieties may open as early as 10 pm and close the following day around 4 or 5 in the afternoon, bringing charges from unsuspecting gardeners that, "they didn't even last a day." Extended bloom daylilies remain open throughout the day and well into the evening hours. These are prized specimens to use around patios and pools and arrangers delight in using them for dinner table arrangements. One must bear in mind that temperatures from day to day will affect the time of bloom in the same cultivar in the same garden. This holds true no matter what the normal time of bloom may be.

•Type of Foliage

Not many people are aware that there are 3 types of daylily foliage, deciduous, semi-evergreen and evergreen. Perhaps it is the foliage, that has discouraged gardeners from planting daylilies in sub-tropical areas. When buying plants few people consider the type of foliage they are getting with the stunning flower pictured in a catalog or in a grower's field. The plant is bought, planted, and appreciated until the time it goes deciduous and leaves a gapping hole in the landscape. Semi-evergreen varieties will maintain varying amounts of foliage throughout the winter. At least you will know that the plant is still there. Depending upon how low the temperature dips in your particular area, evergreen daylilies will look good or only slightly bedraggled during the winter. By all means seek out the evergreens!

•Size of Scapes and Blooms

Daylily species and early hybrids were quite tall. The majority of modern hybridizers seem to be

working within the range of 24 to 36 inches. The shorter end of this spectrum seems to be most favored. When registering a new daylily cultivar with the American Hemerocallis Society the hybridizers must state the height of the bloom scape. Since most new cultivars are not allowed to clump, but are lined out to be sold as single crowns, one should expect that in an established clump the scape will probably be much taller than the hybridizer's educated guess. The advent of tetraploid daylilies has brought many improvements such as flowers with more substance, stronger color, and by no means least, thicker scapes. One will never find a tetraploid daylily scape arching to the ground under the load of its many buds and flowers.

♦Flower Color

The first true red daylily was introduced in 1934. Since then, new colors such as violet, melon, and pink have come into prominence. Hybridizers ever in search of something different are now working toward blue and white flowers. When that day arrives the daylily will be one of the few flowers representing every color in the spectrum.

'Tetrina's Daughter' with its foliage

♦Flower Pattern

Eye-zone---a band or zone of dark color between the throat and outer petal segments. The cultivar 'Wideeyed' comes to mind.

Reverse eye-zone---a band or zone of lighter color between the throat and outer petal segments. 'Bellissimo' is one.

Midrib color---some varieties may have a midline running the length of the petals and it may be a darker or lighter color.

Throat color---may be yellow, orange or green. Dark colored daylilies tend to have green throats.

♦Planting

A single division planted in ordinary good garden soil, and given plenty of water throughout the year will become a 2-foot round clump within 2 years. Water is the single most critical factor in achiving success with daylilies. With an abundance of water you will have more bloom, better color, and larger flowers.

♦Suggested List of Tetraploids

Deciduous---'Fair Annet' (glowing coral pink); 'Jock Randall' (vibrant rose wine); 'Royal Flair' (lavender, wine eye); 'Sea of Stars' (lavender blend); 'Risa' (rose, apricot throat); 'Red Rowan' (velvety crimson red); 'Adela' (melon pink self); 'Arriba' (tall dark red-black).

Semi-evergreen--- 'Tetrina's Daughter' (tall lemon).

Evergreen---'King's Cloak' (rose wine, mauve); 'Bishop's Crest' (silvery, purple eye); 'Ethiopia' (large rich purple); 'Bellissimo' (light pink blend). □

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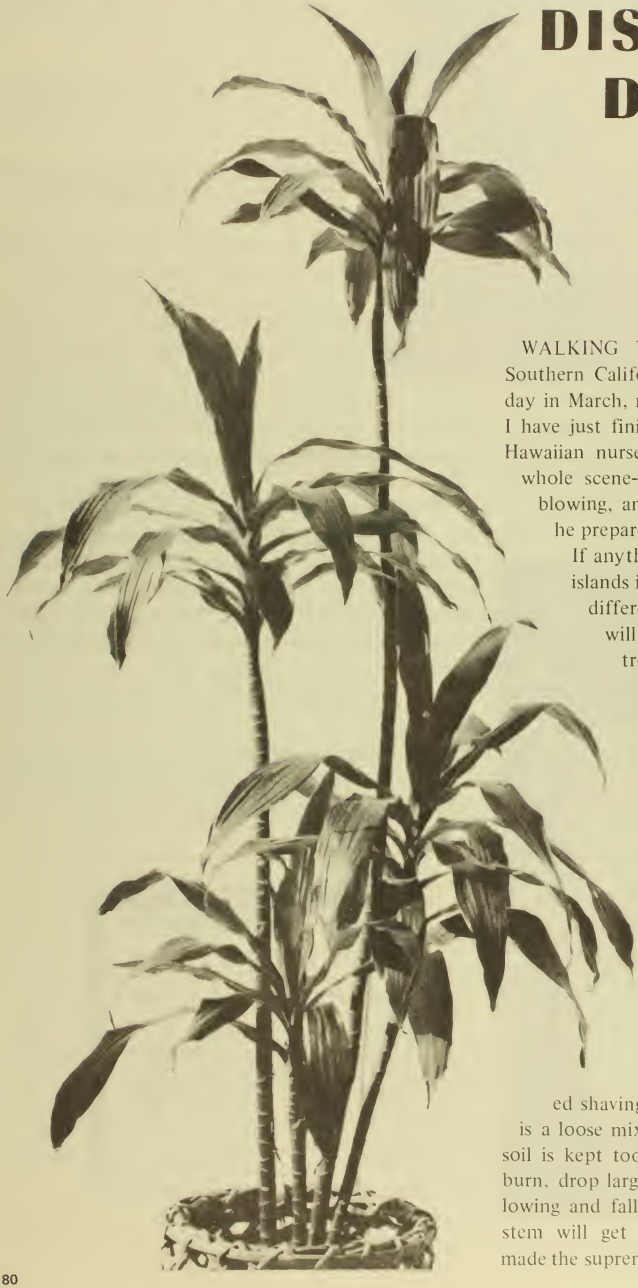

DISCOVERING DRACAENAS

by BOB KEARNS

Bob Kearns is a Certified California Nurseryman with a A.A. degree in horticulture. He has been manager of a nursery for the past six years.

WALKING THROUGH the greenhouse at our Southern California nursery on this cold and windy day in March, my thoughts drift wistfully to Hawaii. I have just finished talking to the supervisor at our Hawaiian nursery operation. I can almost see the whole scene---the sun is shining, a soft breeze is blowing, and he is wearing shorts and sandals as he prepares another shipment of dracaenas.

If anything can instantly take one back to the islands it has to be enjoying an area filled with different dracaenas. These exotic plants will transform any room or patio into a tropical setting.

The American public has only recently become aware of the many outstanding qualities of dracaenas. Coming from the same family (Liliaceae) as cordylines, tis, and beaucarneas, they tolerate a typical indoor environment remarkably well. This hardy plant can withstand the transition from a warm humid bright greenhouse to a dry drafty low light area in the home.

There are a few guidelines, which, if followed, will ensure your success with dracaenas. First of all, DO NOT over-water. We plant them in a mix of 1/3 topsoil, 1/3 well decayed shavings, and 1/3 (No. 2 grade) perlite. This is a loose mix that allows for fast drainage. If the soil is kept too wet your plant will soon show leaf burn, drop large numbers of lower leaves (a few yellowing and falling now and then is normal), or the stem will get mushy and your dracaena will have made the supreme sacrifice. If you have leaf burn you

may trim off the unsightly area with a pair of sharp scissors. Keeping the dracaena foliage as clean as possible by wiping with a damp cloth or spraying with water will help prevent an infestation of spider mites,one of the few pests that bother dracaenas.

We fertilize with a liquid plant food made ½ strength and used with every watering. A slow release pellet-type may be used instead, and will not shock most varieties of dracaenas. Be sure to let the soil become dry to the touch between waterings. For mature plants in your home a watering with ½ strength liquid fertilizer once a month should be sufficient to keep them healthy.

This plant is very tolerant to varying light intensity. However, very dim light will cause the leaves to discolor, droop, or new ones to come out abnormally, while too much light may burn the leaves. The area in between where dracaenas are happiest is very broad.

A few such as *Dracaena marginata* and *D. deremensis* 'Warneckii' do fairly well outdoors in our semi-tropical climate. *D. marginata* will even tolerate full sun conditions when allowed to acclimatize. 'Warneckii' does best in part shade and both need some protection from strong wind. Then, of course, there is the "dragon tree" *D. draco*, which will grow well when exposed to full sun, wind, or even salt spray from the ocean breezes.

The broader leafed ones such as *D. fragrans* and its cultivars 'Massangeana' and 'Lindenii' never seem to adapt to outdoor conditions without showing leaf damage.

Hawaii is the source of most of the local dracaenas. Although not a native to these islands, the climate is highly suitable. They were first brought from other countries to Hawaii by the people recruited to work in the sugar cane fields because they believed they brought good fortune. It became customary to plant them in front of nearly every home as a symbol of good fortune. That is why *D. marginata* is sometimes known as the "money tree." It is still commonplace to see dracaenas in front of many homes and even hedges made of 'Cragii,' 'Massangeans,' and 'Warneckii.'

If one needs to have his hedge trimmed he needs only to contact a grower who will be happy to trim it so he can get the cuttings. These cuttings may range in size from 6 inches to 12 feet in length and some as large as a foot in diameter.

The cuttings are placed under 50 percent saran shade cloth and rooted in a mixture of volcanic cinders and a slow release complete fertilizer. Sometimes the top foliage is left on and other batches are rooted as logs with no foliage at all, but soon shoots break out along the top. After they have an established root system and some nice looking foliage the cuttings are lifted from the propagating mix, washed, inspected, and carefully wrapped. They are air freighted to the mainland where they are repotted into another mix more suitable for our growing conditions. After becoming well established they are then ready so your home can have that special kind of tropical accent dracaenas can provide. □

*SMALL POLYPODIUMS? *(Continued from Page 75)*

It often takes 2 to 3 months for a rhizome to root. Open the bag and tug on the cutting gently, if it is firm it is rooted. If it pulls out, no harm done, just replace it and give it more time to root. After the cuttings have rooted, gradually roll down the top of the bag to acclimate the plants. They can be left in the same pot 1 to 2 years before transferring them to baskets.

There are some ferns that lose all their fronds in the winter and send out new ones in the spring. Even though they lose their leaves continue your regular watering schedule. The life of fronds on a polypodium is about 9 months when they start getting brown at the tips. We usually leave them on until they get too unsightly then cut them off.

Whatever the size and growing habits of these unique ferns, you will find them a pleasure to own and easy to grow. With such a wide choice there should be at least one polypodium that would be perfect for your shade garden. □

References:
Hoshizaki, Fern Growers Manual
Time-Life Encyclopedia of Gardening-Ferns
Olson, The Fern Dictionary
Foster, The Gardeners Fern Book

Mr. Sodomka is President of the San Diego Fern Society. Raymond and Margaret have been growing ferns for 20 years.

RAINY DAZE

by Josephine Gray

★ After a long absence we welcome another article by our Herb Editor.

ON A RAINY DAY between one downpour and the next, I sloshed out to see what was going on in the herb garden. It is built on a gentle slope and I envisioned the soil washed down hill leaving roots wildly clinging to whatever bit of rock or tree root they could find. Unfortunately the garden had been neglected for some time and during this period the current "gardener" did his weeding with a pick. This included all the paths so that now after all the rain, the going was precarious.

There has been so much written about herbs recently that one would think there couldn't be another thing to say about them in any aspect, so I have to fall back on the old cliches and say how wonderful they are and how grateful I am to them. In the midst of all the debris of tumbleweed and sullen drooping stalks of last summer's dusty miller, there was mint, fresh and green, and cheerful; 'Eau de Cologne' which is my favorite, was boiling out of the top of its pot and sending out runners from below to catch hold in the surrounding earth to make a luxurious bed for summer.

As I made my way along I saw much that could be distressing. The santolina looked pinched and unhappy and there was no sign of costmary or tarragon. I am particularly sorry about the costmary; there had been two great stands of it for years and it had flourished mightily. It is useful in an herb garden not only because the unique fragrance and form are so desirable in tussie-mussies, but for a more practical purpose. Costmary has been called Bible Leaf for obvious reasons, but more books than Bibles have profited from its use for it has been found that the leaves laid among the pages of books repel silver fish.

I have often heard that an herb gardener's reputation hangs on his tarragon bed, and I have cringed in the shadow of a hostess who proudly displayed her plot. I can and do grow tarragon, but it produces timidly and grudgingly for me. I have never been able to harvest more than enough for my own use, and when I show my garden I always make excuses for its height or that it looks a little spindly because "we had such a warm winter you know." My hostess (who puts ice cubes on her bed from time to time) waves her hand over a sea of sun warmed fragrance that makes the senses reel, and then bends to snap off a two foot plume for me to carry on the rest of the tour.

So I am disappointed but not surprised that I found no tarragon after neglect and too much rain. Sliding in the mud past its old habitation I remind myself to beg a root from a friend when it comes back out of its winter somnolence. This slippery path leads to the artemisia bed, bounded on one side by a nicely growing bay tree and on the other by a sprawling old clorinda geranium which lights up the garden for weeks on end with its lavish blossoming.

There are other things in this bed besides artemisias; there is comfrey which is out of place and is being ravaged by snails as well. Also there is a curry plant which I never should have recognized if I hadn't broken off a piece to smell. The last time I saw it some months ago I had despaired of its survival, and now it is billowy and healthy thriving among the wet weeds. And are the weeds glorious! Ragweed which poses arrogantly as mugwort, pulls out so easily that it is a joy to sit down for a minute on a small stool and free some of the southernwoods of their coarse neighbors. Artemisias are never at their best in winter and the lovely 'Argentea' has tufts at the ends of long sticks that look like aluminum pot scrubbers. The soft gray-green mats of tufted wormwood are sodden and have shrunk like woollens washed in hot water. They will come back but I am concerned for the small bed of old lavenders across the way. There are only four or five but they have done well in a little spot of gravelly soil and for years I have had fragrant harvests. One of the plants is from a small handful of seeds I stole from Hidcote Gardens and I have nurtur-

ed it lovingly for years. It is not quite a foot high but nicely shaped and at bloom time is covered with 3-inch spikes of most intensely fragrant blossoms. None of the true lavenders looks well but I am afraid to look for the little Hidcote plant.

Here and there all over the garden there are dentate lavenders, both gray and green. They seed themselves and come up in the most surprising places. They thrive and live their lives merrily in spite of wind and weather; it is heartwarming to have so beautiful and valiant an herb.

Author and English Lavender

I am discovering that marjoram likes a little circle of privacy around each plant. If it is shouldered by weeds or other herbs it retreats and when you least expect it it is suddenly gone; so the marjoram beds are always the first to be weeded. After constant rain they are so badly in need of it that one of them looks like a New England boiled dinner. Where all the intruders have come from I don't know. Who poked down that handfull of gladiolus bulbs that are thrusting up their green lances? Where did the lush stand of shasta daisies come from? Everywhere burnet is rollicking; I could make gallons of vinegar if I chose to. It is particularly fine at this time of year, but it does have to be controlled or all the beds will be a ferny woodland.

The paths since they have been picked instead of raked have turned up some interesting finds. Mother Ceres never lets anything stop working. She sees a likely spot and says "Hey, over here" and blows a few seeds from somewhere and I find two lettuces and an endive at my feet. In the path too I found a cocoanut geranium which makes such attractive hanging baskets as well as ground covers. During the hot fall days whole areas which had been so fragrant to walk on, died of neglect, so I was happy to find one to carry on.

I have satisfied myself completely on the proper time to prune lemon verbena. It has been my practice to cut back quite severely in the fall, but a garden magazine article claimed that it made no difference, fall or spring. Still I made no experiment until this period of neglect forced it on me. I am no longer in doubt; the bushes are spindly and brittle and tiny leaf buds are valiantly trying to push forth on long switches which should have been cut back nearly to the trunk. If they had been pruned in October or November strong healthy shoots would be making sure of a summer harvest.

I made my way to a bench which overlooks the whole garden and sat down to contemplate the ruins. The neat sawdust paths are gone and so is the pinafore primness of many little beds bordered with lamb's ears or low growing dusty miller. Ruins? To a perfectionist perhaps, with weeds and grasses flourishing everywhere, but it need not be a disaster. One fragrant and faithful herb can make it a challenge and a promise for a happy summer. □

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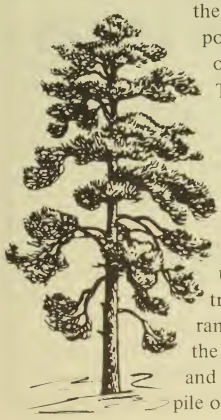
TREE CARE

by George James

MANY TREES ARE DAMAGED by being broken or by being blown down when strong winter winds blow, especially when the soil has been softened by rain. Such damage is serious, for not only the benefits of the tree are lost but the falling tree can damage surrounding plants, buildings, and utility wires.

Some thought should be given by those responsible for the well being of trees to see that these losses are reduced as much as possible. Branches can be thinned so that the tree offers less resistance to wind. Branches that are weak can be topped so that there is less leverage and thus less possibility of their being blown over.



These operations usually call for the services of a professional, one who knows what needs to be done and has the skills and the equipment to perform such operations properly and safely. It is usually possible, when contracting for such work, to arrange for the contractor to cut the wood into fireplace lengths and leave on the premises a good pile of wood for the fireplace. ☐

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CORRECTION TO MARCH–APRIL 1978 ISSUE

We regret that a portion in the article Deciduous Fruit Trees was garbled. The corrected text is printed below.

Apricots

These are usually satisfactory in the home orchard, especially when varieties needing the least winter chilling are planted. Most varieties bear a satisfactory crop when planted alone, but some need a pollinator. Apricots are large, vigorous trees which bear fruit both on spurs and on twigs made the past season. They need to be heavily pruned to prevent over cropping and to permit fruit to be borne in the interior of the tree and on the lower portions. Trees that are not pruned become so dense that fruit is only borne on the outer ends of branches. Apricots and other kinds of fruit trees that develop water sprouts or suckers–strong shoots that grow from main branches and which are poor fruit bearing growth–can have these cut off at anytime they can be identified. It is wise to fertilize apricots after the crop has been picked to avoid danger of spoiling the quality of the fruit.

Figs

There are varieties of figs which do well when planted in the coastal area and can be one of the most satisfactory fruits for the home orchard, for they grow easily and bear well under most conditions. None of the varieties sold for home orchard use need a pollinator, and all have the potential of bearing two crops a season. The first crop is borne at the tips of the past season's growth and the second crop comes on new shoots that grow from these tips while the first crop is being produced. Pruning that takes off the tips eliminates the first crop, but produces a second crop of better quality. Figs are usually pruned to remove branches that grow too close to the ground and to remove suckers or water sprouts. Mature trees that are getting too tall can have their tops cut out, to keep the tree low enough so the fruit can be picked easily. All of the other fruit trees discussed in this article, unlike figs, are propagated by budding or grafting a scion of the desired variety onto a root stock variety. If a sprout grows from the root stock, it may bear poor quality fruit or none at all, for root stock varieties are choosen for vigor or other desirable characteristics, not for the kind of fruit they bear. For this reason sprouts that grow from the roots or the base of the trunk are always removed. This is not the case with figs, because they are grown from cuttings or slips, and sprouts from any part of the tree will produce identical fruit. There are only standard size fig varieties, but they can be dwarfed by confining the roots in a container or by severe pruning, and they can be trained as espaliers against a wall or fence. Figs develop many roots close to the surface of the soil so should not be cultivated deeply. Little fertilizer is needed since too much causes vegetative growth at the expense of fruit production. When established, fig trees need only a small amount of water, and excessive irrigation will lower the quality of the fruit and may cause it to split.

Peaches and Nectarines

These two fruits are closely related and have the same cultural needs so can be considered together. There are many varieties of each but only a few are recommended for growing in the coastal area. Both are available in standard size trees, dwarf trees, which are created by budding desired varieties onto a dwarf root stock, and genetic dwarfs, which are dwarf by nature and are even smaller. Standard trees need heavy pruning when they reach bearing size to make possible not only the production of the current year's crop, but the ability to grow the shoots that will bear fruit the following year. Dwarf trees are pruned for the same reason, but will need less, and the genetic dwarf needs very little pruning. There are some varieties of both of these that are considered to be dual purpose trees, that is they flower with large double blooms in the spring, as attractive as any of the flowering varieties, and then bear a crop of good quality fruit in the summer or later. These trees need to be fertilized each year to grow vigorously to make the growth needed to bear the next crop. Peach leaf curl is a disease that causes the leaves to become distorted, discolored, and to drop prematurely, which weakens the tree. This disease is wide spread, but it can be controlled by spraying with a fungicide containing either copper or sulfur. One application should be made in December before the leaves have dropped, and another in January, following directions on the fungicide container. If rain occurs within a week after either applications of spray has been made, the trees should be sprayed again as soon as the weather clears.

AVOCADO TREES

by George James

THE AVOCADO IS AN EVERGREEN tree native to the tropical regions of the American continents and the nearby islands. It has been successfully introduced to the warmest parts of the United States, and San Diego County is one of the major commercial growing areas. The presence of these commercial groves in the county encourages gardeners to try them at home. Some who have planted avocados have been most successful, producing more than enough fruit for their families' use and having some to share with friends. Trees planted by others have died before they reached the fruiting stage. Experts tell us that most of the avocado trees that die do so because of overwatering which causes root decay and subsequent death of the tree. The purpose of this article is to help those who intend to plant avocados to select a suitable location, prepare a suitable planting hole, and to care for the tree so that it grows, rather than killing it with kindness.

• CLIMATE

Avocados should be planted in a nearly frost-free location. Hardiness varies from variety to variety, but all kinds will suffer if the temperature remains below 30 degrees F for very long. The best growth and fruit production is found when the tree is growing in a relatively warm location where the air is usually humid. Some varieties flower during the first months of the year and if it is cold while they are in flower there will be a small set of fruit. Bearing trees will drop their fruit when hot spells occur, and hot air is one cause of brown margins on the leaves. The best location is one that is far enough inland to modify the influence of the sea breezes, yet not so far inland that the effect of these is entirely lost. Hillside locations are desirable, as the slope allows the heavy cold air to flow down and away from the trees. This reduces the danger of frost damage.

• SOIL

Soil 3 feet deep is sufficient for good root development provided it does not have a hard layer of soil below that would interfere with the downward movement of excess water. Such layers of hardpan or clay are often found in the soil, but if the layer is thin enough or soft enough it can be dug through. When this is done, if the soil below this layer is one through which water will drain, avocados can be grown. In such cases the planting hole should be at least twice the diameter of the root ball (it can be as much larger as time and energy permit) and dug to the hard layer, if any. The sides and bottom of the planting hole should be left rough (see illustration), so that the improved soil used to fill the hole will mix with the surrounding soil. Then a small hole, about a foot in diameter, is dug through the hard layer and this is filled with a mixture of sand and a fine organic material, such as peatmoss. It has been proven that a fine mixture works better than a coarse aggregate. The ability of any soil to drain should be determined before planting by adding water to the hole. In a well drained hole the water will escape within 24 hours.

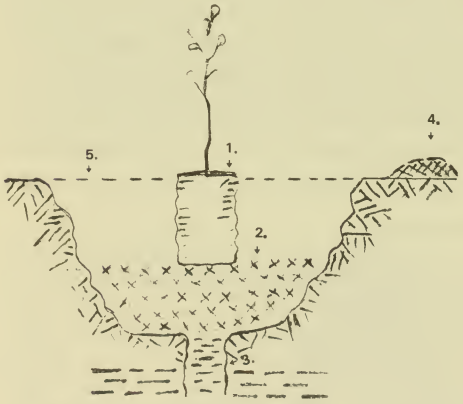
• PLANTING

The soil taken from the planting hole can be improved by mixing organic matter with it before it is used. Any material of small particle size that will not be toxic to the roots is suitable. Animal manures can be used, but unless well decayed they should be mixed with the soil, well dampened, and allowed to decompose a month before using. This will reduce the possibility of root damage. Place enough of the improved soil in the bottom of the hole so that when the root ball is set on it, the top of the ball will be an inch or so above the level of the surrounding soil. This will allow the ball to settle without the soil covering the base of the trunk. Avocado trees are always sold in a ball of soil. The tree should be lifted with a hand under the ball to support it so that the weight is not carried by the roots of the tree. Great care should be taken not to crack or break the ball.

After the ball is properly set, a layer of the improved soil is added and tramped to compact it. The hole is then filled to the top with additional layers, each one being compacted by tramping before the next is added. A dike is then built around the planting hole and filled with water to finish the compaction and disperse air in the filled soil. The soil of the root ball is usually of a different texture and more compact than the soil with which the hole is filled. For

this reason it is possible for the soil in the ball to be dry and the surrounding soil quite wet. It is a good precaution to check the condition of the soil in the ball by scraping a little off one side. If the ball is found to be dry, a smaller dike, one that will confine the water to the area just above the ball, can be built and filled with water which hopefully will move down and wet the ball without running off. Or a dripping hole can be set above the ball and the water applied slowly so that it soaks in. If the ball has become dust dry, it may be necessary to make holes in the ball with a rod or large screw driver so that water will penetrate. This procedure may break or damage some roots, but better this than lose the tree because it isn't getting water. Young trees, at the time of planting sometimes do not have enough foliage to shade the trunks and these should be protected from sunburn.

Avocado trees can grow to be 30 feet tall and will at maturity spread as far, so it is well to keep these facts in mind when planting. Set the trees far enough apart or far enough from fences or buildings so they have room to grow without crowding.



TYPICAL PLANTING HOLE

1. Balled avocado - Place about 1-inch above garden level.
2. Improved soil from hole - lightly tamped.
3. Drain hole (if required) - Dig through any hard layers of soil and refill with sand and peatmoss.
4. Dike formed from poorer soil from bottom of hole.
5. Level of garden soil - Refill around balled plant with improved garden soil, well compacted in layers.

• IRRIGATION

Newly planted trees will need frequent watering until they have developed a root system that reaches into the surrounding soil. Once established, they should be irrigated as they need water, not on a predetermined schedule, which can lead to overwatering. Determine the need for water by digging into the soil with a shovel or by using a soil auger to sample the lower soil. Avocado trees have their roots close to the surface of the soil, seldom rooting deeper than 3 feet, and less if there is a hard layer, so only enough water should be applied to wet the soil to the depth the roots have developed. Once or twice a year, during the warm months, a heavier than usual irrigation can be given to flush the salts that accumulate in the soil from the irrigation water below the root zone. Such salts may be another cause of brown margins on the leaves.

• MULCH

Cultivation can damage the surface roots of avocados so it is not recommended, instead use a mulch of organic material. Start mulching as soon as the tree is planted and add material as needed to maintain a mulch several inches thick. Leaves are shed all year around, and on mature trees these do much to sustain the desired level of mulch. A mulch will save water, reduce weed growth, improve the tilth of the soil, and create desirable growing conditions for the surface roots.

• VARIETIES

Trees sold by nurseries are created by budding a scion of a known desirable variety of avocado onto a seedling rootstock. The resulting tree will be just like the parent variety. An avocado will start easily from seed and this tree can be tried in the home orchard. However, it may be as long as 7 years before such a seedling will bear and no one can foretell what kind of fruit it will produce.

There are many budded varieties of avocados, each differing from the other in habit of growth, the season the fruit matures, the color or size of the fruit, or the trees' hardiness. Several varieties are listed with their most valuable characteristics.

'LITTLE CADO' is a patented dwarf variety that is said to grow from 8 to 10 feet tall and bear fruit that is green in color and ripens during the summer months.

'BACON' is more upright than most, stands cold weather better, and bears more heavily close to the sea than many others. The fruit is green in color, medium size, and ripens November to March.

'FUERTE' is much used by commercial growers; the fruit is green, pear shaped, and richly flavored. The tree is spreading and the fruit ripens November to June. It flowers about the first of the year and if the weather is cold there will be a poor set of fruit, therefore it is more satisfactory inland than along the coast.

'HASS' grows to be a large and spreading tree that bears large, purple-skinned fruit that ripens April to October and does better in a warm location.

'MEXICOLA' is probably the most cold hardy variety. It bears consistently and heavily, the fruit is small, dark colored, and very rich in flavor, ripening August to October. A variety to use if you suspect your location may be subject to more cold than you consider good for an avocado.

'RINCON' needs a warm location. The fruit is small, green, and ripens April to July.

'ZUTANO' has green, pear-shaped fruit, which ripens October to February. The tree is upright and will thrive in cool coastal locations.

• HARVESTING

The fruit of the avocado does not become soft enough to use on the tree, it must be picked and kept until soft. Fruit that is too immature when picked will shrivel before it is edible. When ripe, fruit of green-fruited varieties will be less lustrous, and both the skin and stem will take on a light yellow tinge, while dark-skinned fruits are usually mature enough when they start to color. The maturity can also be checked by picking one and if it becomes soft without shriveling, it is ready to eat. Size of the fruit is not a satisfactory indicator of maturity as the small fruit on a tree is often just as developed as the larger. Avocados should be picked by clipping the stem, cutting close to the fruit so there is no stub left to pierce the skin of other fruit. Decay can start in a wound caused by a puncture, by pulling the fruit from the tree, or by removing the button (stem).

• PRUNING

Avocados do not need much pruning, only that necessary to remove branches that lie on the ground or those that grow beyond an acceptable outline for the tree. If, for any reason, an avocado is pruned so that interior branches are exposed to direct sunlight, these should be painted with whitewash or some other acceptable material that will protect these branches from sunburn.

• FEEDING

A consistent feeding program will enable young trees to develop quickly and mature trees to bear larger crops. The first year or two after planting the trees can be given three or four light feedings each year while larger trees are usually fed twice a year—in February and in June. Nitrogen is the principal plant food element they need. Ammonium sulphate, ammonium nitrate, and blood meal are concentrated sources of this element. Fertilizer should be used as directed on the package, applied to moist soil, and watered in at once. The fertilizer known as citrus and avocado food can be used. In addition to nitrogen it supplies phosphorus and potash, which are usually not needed for avocados, but will do no harm. Animal manure put on in the fall will break down during the winter, contributing to the mulch and supplying food in the spring. Some growers use manure in the fall and one of the above commercial preparations in June. Avocados may suffer from iron shortage or chlorosis, indicated by yellow leaves in which the veins remain green. It is corrected by adding iron sulphate or chelated iron, which is iron plus chelating elements that keep the iron available to the plants over a longer period of time than iron sulphate.

• PESTS

Avocados very seldom suffer a serious pest problem and if they do, it is recommended that the gardener consult a reliable source such as the County Farm Advisor, to find out what materials to use and how to apply them. Instructions from uninformed sources could worsen the situation by suggesting materials that would upset the balance between the pests and the insects that prey on them.

IF you have the space and favorable climatic and soil conditions, plant an avocado tree and enjoy the tree and the fruit for years to come. □

E. globulas should read *E. globulus* on page 36 March–April 1978 issue.

Avocado Note

THE MAN WAS A PIRATE, this William Dampier, but he was also something of a naturalist. For all those years that he was sailing around the Pacific, harrying the shipping off the coast of South America, he was observing and making notes on the plants and animals he encountered in what was then the New World. After retiring from the pirate business, he wrote of his observations in "A New Voyage Round the World." In this book, published in 1697, we find the following description of our popular fruit, the avocado.

"The Avogato Pear-Tree is as big as most Pear-Trees, and is commonly pretty high; the skin or bark black, and pretty smooth; the leaves large, of an oval shape, and the Fruit as big as a large Lemon. It is of a green colour, till it is ripe, and then it is a little yellowish. They are seldom fit to eat till they have been gathered 2 or 3 days; then they become soft, and the skin or Rind will peel off. The substance in the inside is green, or a little yellowish, and as soft as Butter. Within the substance is a stone as big as a Horse-Plumb. This Fruit hath no taste of itself, and therfore 'tis usually mixt with Sugar and Lime-Juice, and beaten together in a Plate; and this is an excellent dish. The ordinary way is to eat it with a little Salt and a roasted Plantain; and thus a Man that's hungry, may make a good meal of it. It is very wholesome eaten this way."

—HVC

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AUSTRALIAN TEA-TREE

by ROLAND HOYT

NOT A LITTLE credit is due the management in Balboa Park for singling out and preserving from the original planting, the specimen of this species near the Timken Gallery. It stands alone at the curb where El Prado breaks into the Plaza and will be easily recognized. Here one will see and hopefully be impressed with the picturesque quality that develops with age in this Bohemian species.* There are other plantings of like age in the park, but usually back in shrubbery or otherwise obscure as individuals so that the unusual character cannot be readily recognized.

Here is a species (*Leptospermum laevigatum*) a tree-shrub, one of the earliest of the foreign introductions in California and which has grown up, so to speak, with our San Diego. There are comparatively few to be seen about, as resulting from so many years of planting, and the craft-knowledge to be gained is the inability of the plant to take heavy soils, or moisture anywhere without drainage. Even with this vital factor in hand, too much moisture will take its toll of a planting so that here and there these individuals stand out and attest our late understanding of its wants. Sand is its delight and well-being.

A rugged individual otherwise, this shrub takes high heat inland or cold winds off the ocean, salt breezes that vitiate and all the punishment a storm there can inflict. The plant will be called ungainly in the early stages of growth. Age, as usual, brings out whatever of implanted quality in an individual that exists, and finally this plant is called picturesque. Look at this one on the plaza and see the distinction coming on—the tortuous-textured, twisting trunk a study in abstraction, weirdly beautiful for those who will see—unreal, visionary. The hairy-stringy, exfoliating bark is an additive in interest, not so much a source of litter.

This shrub will take moderate pruning, but in the nature of a thinning out and direction of growth; always too, with the idea of getting the primary stems up in the air the normal 15 feet or to 30 feet in a proper spot—this to a flat, more or less umbrageous top. Do not cut a stem back to a stump; remove altogether if unwanted, since new growth usually fails to come forth. Try it as a free-standing espalier against a hot wall. The white flowers of April-May will blanket the broad, slate-green head in a contrasting indication that white, after all, may be considered a color—unfading, the purest and most enduring. There are no pests enterprising enough to tackle these tough leaves and no disease to penetrate. It takes any abuse other than that noted.

Pictured here by Alfred Hottes is *L. scoparium* in two forms, a species with like wants culturally, but with brilliant red coloring in the flowers. A number of years past, Dr. Walter E. Lammerts did some hybridizing with resulting strains of unusual merit for dry gardening. There are many free-blooming varieties here, single flowers to fully double in pink to red and, fortunately, many dwarfs for the smaller place. These are almost always available in nurseries. An important point here, to recognize first and then to remember as the plant comes along, is that the young plant wants moisture—gradually diminishing until a reasonable, then an almost total dryness has been reached. Many failures result from too suddenly breaking-in. □

Reprint: June-July 1966

* Editor's Note: This tree became diseased and was removed in 1977. The large stump is being used in one of the Zoo animal cages.

NEW OR NOTEWORTHY PLANTS

by Paul C. Hutchison

Photo by Bill Gunther

Aloe 'Minibelle' is one of many hybrids produced by Edward C. Hummel, hybridizer and formerly a nursery owner in Carlsbad, California. This cross is one of many involving *Aloe juvenna*, a diminutive African species, with an unknown second parent, produced by open pollination on plants in Leucadia, California. We acquired about 15 clones of these 4 or 5 years ago and the first plants became available to the public in late 1977. Aloe 'Minibelle' has been named by us after Mrs. Hummel. The plant remains relatively small, but a single rosette can fill a 4-inch pot. It proliferates by offshoots at the base of the parent plant. The coloring is typically pale yellow-green, with whitish teeth. □

A Cultural Calendar of Care from our Affiliates—

NOW IS THE TIME

Compiled by PENNY BUNKER

BEGONIAS

Margaret Lee

- ✓ to clean plants of all dried leaves, old blooms, and dead wood.
- ✓ to trim back and restake cane varieties where needed.
- ✓ to prune for shape and to encourage side-growth, but do so gradually—about 1/3rd of the plant—to avoid too much shock.
- ✓ to spray with malathion for insect control.
- ✓ to do repotting as needed, using a light porous mixture.
- ✓ to feed plants with a well balanced all-purpose fertilizer; ¼ strength once a week.
- ✓ to protect from too much sun and drying winds.
- ✓ to check for moisture but DO NOT keep wet.

BONSAI

Dr. Herbert Markowitz

- ✓ to enjoy the beauty of your trees.
- ✓ to shape deciduous trees by pruning, but only finger-prune evergreens with small needles.
- ✓ to defoliate most deciduous trees in June. These may be transplanted afterwards.
- ✓ to transplant conifers if required.
- ✓ to place trees to receive optimal sun, but not full sun after 11 a.m. for trees that may sunburn.
- ✓ to rotate trees often to maintain proper shape.
- ✓ to develop full watering schedule—avoid over-watering on overcast days, especially the pines.
- ✓ to fertilize all trees, preferably with an organic fertilizer. Don't over fertilize the pine trees.

BROMELIADS

Dr. Norman Lurie

- ✓ to protect your plants from snails and slugs; place bait around plants, not in cups.
- ✓ to groom plants and remove offsets. These can be repotted to increase your plants.
- ✓ to feed with a balanced fertilizer.
- ✓ to keep cups clean and filled with clean water.
- ✓ to be careful of sunburn on foliage.

CACTUS and SUCCULENTS

Verna Pasek

- ✓ to weed and clean the potted plants and the gardens; prepare for show time
- ✓ to check the underside of leaves and inside rosettes of succulents for unwelcome critters; watch for mealybugs and aphids.
- ✓ to check for scale---use malathion or soapy water to remove.
- ✓ to inspect roots of waning plants---nematodes could be in soil, Nematodes invade plant tissue which causes stunting and death of plants.
- ✓ to move plants out of cold frames. Avoid a sudden change. Give morning sun while protecting from the afternoon glare.
- ✓ to feed with balanced fertilizer to promote flowering.
- ✓ to provide good air circulation, top priority whether plants are inside or outdoors---they remain healthier and resist disease and pests.

CAMELLIAS

Capt. Benjamin Berry

- ✓ to transplant those plants that have started new growth.
- ✓ to repot plants that have outgrown their containers.
- ✓ to start a feeding program; give iron every other month.
- ✓ to use an acid type fertilizer---cottonseed meal, special camellia mixes, or liquid fish.
- ✓ to water well the day before feeding---NEVER fertilize a dry plant.
- ✓ to watch for aphids on tender new growth, and spray.
- ✓ to spray or dust with chlordane to discourage leaf beetles.
- ✓ to mulch with an acid type material---bark or pine needles.
- ✓ to prune for shaping and thin out center for good air circulation.

DAHLIAS

Abe Janzen

- ✓ to draw soil around plants as they grow.
- ✓ to feed with a low-nitrogen fertilizer (4-10-10) either dry or liquid.
- ✓ to plant the smaller varieties.
- ✓ to spray regularly for leaf miner, aphids, and thrips.
- ✓ to pinch out centers of plants when two or three sets of leaves have developed.
- ✓ to soak deeply when watering.

EPIPHYLLUMS

Mary and Warren Kelly

- ✓ to enjoy the blooming season.
- ✓ to groom plants---removing wilted blooms unless you desire seed.
- ✓ to prune plants to shape---take cuttings after flowering.
- ✓ to put out snail bait, and watch for other pests.
- ✓ to use rubbing alcohol on a swab stick to remove mealybugs.
- ✓ to allow cuttings to dry before planting.
- ✓ to water carefully; don't allow to dry out, but DO NOT overwater.
- ✓ to give plants a balanced food after blooming season.
- ✓ to cut out old dry wood.

FERNS

Ray Sodomka

- ✓ to remove dead fronds.
- ✓ to water thoroughly, including surrounding areas to maintain the humidity.
- ✓ to fertilize with a high-nitrogen fertilizer, liquid or pellets, twice a month.
- ✓ to plant spore.
- ✓ to spray for aphids and scale.
- ✓ to enlarge your collections and varieties make visits to nurseries and shade plant shows.

FUCHSIAS

William Selby

- ✓ to change your fertilizer to 5-10-10 for lush growth and an abundance of large blossoms.
- ✓ to watch your watering. DO NOT allow plants to dry out, keep them damp, but NOT wet.
- ✓ to protect most varieties from the direct rays of the sun.
- ✓ to keep a sharp watch for pests---a few worms or caterpillars can chew and ruin your plants in a very short time. Aphids and whitefly can appear overnight. Spray regularly and keep plants clean and healthy.
- ✓ to turn your pots and containers one quarter turn every 3 to 4 days to maintain a well balanced plant.

✓ to visit shows, especially expositions to view the most beautiful fuchsias.

GERANIUMS

Carol Roller

✓ to continue feeding plants using a low-nitrogen fertilizer to encourage flowering.
✓ to water when plants are somewhat dry, keeping foliage as dry as possible.
✓ to remove faded flowers and old discolored leaves.
✓ to continue pest control for sucking and chewing insects, slugs, and snails; using products according to the manufacturer's directions.
✓ to continue to rotate pots on a regular basis to produce well-shaped plants. Use fishing swivels to allow hanging plants to turn freely.
✓ to make cuttings of plants that have bloomed. Root in sandy soil or plain sand, but repot into soil after rooting.
✓ to enjoy geraniums at the height of their season.

HEMEROCALLIS

Sanford Roberts

✓ to undertake a thorough cleanup of clumps. Remove dead foliage and spray (wash) soil area with Cygon to combat aphids that are heavily attracted to the lush new spring growth of emerging fans. (Use 1 teaspoonful per gallon of water.)
✓ to dig and divide clumps that have been growing in the same spot more than three years. Separate to 2 to 4 fans when replanting. DO NOT cut tuberous roots back. Spread roots much like planting a rose and cover with not more than 2 inches of soil.
✓ to fertilize established clumps with well decomposed compost, manure, or with a 5-10-10 formula.
✓ to order catalogs and order new cultivars for earliest shipping dates to this area. Remember only about 1% of the 20,000 introduced cultivars fail to thrive locally.

IRIS

Valera Chenoweth

✓ to keep watering while still blooming.
✓ to feed Siberians after bloom with a balanced fertilizer to form the bloom for next spring.
✓ to feed Japanese iris with camellia food in the water in which they are grown.
✓ to feed spurias with a low-nitrogen fertilizer.
✓ to feed Louisianas with a balanced food after blooming, but wait until June to dig and transplant.
✓ to prepare beds for planting and transplanting tall-bearded after bloom. Work in humus, soil sulphur, and some well decomposed manure before transplanting.
✓ to watch for aphids; can use a systemic insecticide.
✓ to allow cut surfaces of tall-bearded rhizomes to dry and be exposed to sunlight several hours before replanting or give a light dusting of soil sulphur on the wounds. May place in vitamin B for awhile before planting.

ORCHIDS

Charles Fouquette

✓ to spray and mist on hot, dry days.
✓ to control snails use metaldehyde or other poison.
✓ to maintain pest control against red spider, mealybug, and scale; can use malathion or other non-oily spray.
✓ to start high nitrogen feeding of cymbidiums and a complete fertilizer on phals and cattleyas.
✓ to keep exterior planting media moist.
✓ to check for too much sun in different areas in the glasshouses.
✓ to check and prepare to paint or erect shade cloth in areas of patio or hothouse with too much light.
✓ to continue heavy watering of cymbidiums.
✓ to be careful NOT to have sudden temperature changes to keep bud-blast at minimum.
✓ to mist seedlings in mornings and early afternoon---to be dry before nightfall.

ROSES

Robert Linck

✓ to cut back spent blooms to promote a second bloom cycle.
✓ to fertilize with a balanced plant food.
✓ to water deeply as the days become warmer.
✓ to mulch the roses to keep the ground cool.
✓ to continue preventative spraying for mildew control. Can use Parnon using ¼ teaspoon per gallon of water, or use Acti-Dione PM to remove mildew.
✓ to check for rose slugs and/or worms. Spray with malathion or sevin if pests are present.

GREEN THUMB ITEMS

Hazel Albuminuria

- ✓ to plant summer-blooming annuals---zinnias, marigolds, and celosia for late summer bloom.
- ✓ to feed azaleas with camellia food (acid promoting fertilizer). Iron chelates will contribute to lush green foliage.
- ✓ to tie back the foliage of spring bulbs to allow them to dry naturally.
- ✓ to provide food for the bulb for next spring's flowers. Can give the bulbs liquid fertilizer for added food.
- ✓ to prune the spring flowering shrubs to encourage new growth which will bear flowers next year. Remember you can prune them while in bloom using the cut branches for arrangements.
- ✓ to select and plant chrysanthemums for fall color and pinch back those plants divided earlier.
- ✓ to water lawns deeply to discourage shallow rooting.
- ✓ to plant gardenias now. Give them a rich moist soil.

VEGETABLES

George James

- ✓ to plant nearly all vegetables from seed or started plants. Cabbage and its relatives are better planted when weather is cooler.
- ✓ to feed most of the garden every 3 to 4 weeks with vegetable fertilizer.
- ✓ to feed the following vegetables according to schedule below:

  Corn---feed when 8 inches tall and again when 18 inches tall.

  Lettuce---feed once when about half grown.

  Tomatoes---feed once a month after fruit begins to set.
- ✓ to continue reading below about vegetables.

THE WEATHER DURING May and June in the coastal areas of Southern California is usually overcast and cool—not the best for growing some of the vegetables that are thought of as being summer crops. The root crops such as beets, carrots, radishes, and turnips grow well under these conditions, as do snap beans, summer squash, corn and cucumbers, all of which can be grown from seed. In addition, plants of celery, eggplant peppers, onions, and tomatoes can be set out successfully. Cantaloupes, lima beans, pumpkins, watermelons, and winter squash will grow better a little later when the weather is warmer, with the seed planted about the first of July. Lettuce and spinach do not do well in the hottest part of the year, but if grown for harvest during the summer and fall the quality will be better if they are grown in partial shade. Endive can be grown instead of lettuce and New Zealand spinach instead of the conventional varieties, both of which stand warm weather better.

In warmer weather it is important that plants always have an adequate supply of water. Irrigation by flooding or in furrows is preferable to sprinkling which wets the foliage and encourages diseases.

Fertilization, as well as irrigation, is necessary to grow good quality vegetables. The kind of commercial fertilizer that will give the best results is one called a tomato or vegetable fertilizer. They contain a higher percentage of phosphorous than nitrogen. If a fertilizer is used that has a much higher level of nitrogen than phosphorous, or contains only nitrogen, plant growth can be excessive which reduces the yield and quality of the edible parts. The practice of mixing fertilizer into the soil before planting has proven beneficial. Some gardens, where the soil is not fertile, or where there are roots from shrubs and trees that compete for food, may need more frequent feedings. It is safer to increase the frequency of the applications than to increase the amount applied at each application. □

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Prs: Mrs. Betty Logan—469-0433
9818 La Cresta Road, Spring Valley 92077

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Prs: Mrs. Virginia Soderberg—582-7098
6197 Arno Drive, S.D. 92120

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Prs: Mr. Ben Hardy—448-0659
9443 E. Heaney Circle, Santee, 92071

FALLBROOK GARDEN CLUB
Fourth Thursday 10:00 a.m. Fallbrook Woman's Club (Mission & Hill Street)
Prs: Mr. Philip Nye—728-8560
4017 Linda Vista Drive, Fallbrook, 92028

FLEURS de LEAGUE
Sec. Mon., Homes of members 10:30 a.m.
Prs: Mrs. Robert Brown, Jr.—459-8776
7794 Lookout Drive, La Jolla, 92037

IKEBANA INTERNATIONAL CHAPTER NUMBER 119,
Fourth Wed., Casa del Prado 10:00 a.m.
Prs. Mrs. Roger Lovitt—464-7634
3221 Lemon Lane, Lemon Grove 92045

LA JOLLA GARDEN CLUB
Third Tues., 1:30 p.m. La Jolla Woman's Club, 715 Silverado Street, La Jolla
Prs: Mrs. Margaret Hayward—454-8533
5621 Caminito Isla, No. 183, La Jolla, 92037

LAS JARDINERAS
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Prs: Mrs. Richard Haugh—272-5999
5471 Caminito Agua, La Jolla, 92037

ORGANIC GARDENING SOCIETY
Third Fri., Casa del Prado, 7:30 p.m.
Prs: Mr. Al Worrells—475-2325
3417 Willow Street, Bonita, 92002

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12702 Abra Drive, San Diego, 92128

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Prs: Mrs. Harry Ayers—224-3810
4644 Tivoli St. S. D. 92107

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Fourth Tues., 9:30 a.m. Homes of Members
Prs: Mrs. Wendel Bemis—465-6834
7808 Lake Adlon Drive, S. D. 92119

SAN DIEGO BONSAI SOCIETY, INC.
Second Sun., Casa del Prado, 1:5 p.m.
Prs: Mr. Jim Lane—278-6676
6385 Caminito Andreta, San Diego, 92111

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First Thursday, United Church of Christ, 5940 Kelton, La Mesa
Prs: Mrs. Vincent Lang—469-2323
9160 Lemon Avenue, La Mesa 92041

SAN DIEGO CACTUS & SUCCULENT SOCIETY
Second Saturday, Casa del Prado, 1:30 p.m.
Prs: Mr. H. Warren Buckner—469-1391
1744 Englewood Dr. Lemon Grove 92045

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Prs: Mr. Les Baskerville—583-4539
4871 Lucille Place, S.D. 92115

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Prs: Mr. Robert Nicholson—443-2998
13003 Wildcat Canyon Road, Lakeside, 92040

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Fourth Tues., Casa del Prado, 7:30 p.m.
Prs: Mr. Gerald Lohmann—279-5135
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Prs: Mr. Charles Fouquette—448-4165
9349 Burning Tree Way, Santee, 92071

SAN DIEGO COUNTY WILDLIFE FEDERATION
Prs: Mr. Robert Susco—447-3369
2726 Willow Glen Drive, El Cajon, 92020

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Prs: Mr. Eugene Lund—469-1677
5666 Aztec Drive, La Mesa, 92041

SAN DIEGO FUCHSIA & SHADE PLANT CLUB
Second Mon., Casa del Prado, 7:30 p.m.
Prs: Mr. George S. Szobar—276-1559
4310 Gessna, S.D. 92117

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Second Tues., Casa del Prado, 7:30 p.m.
Prs: Mrs. Carol Roller—444-7745
1134 Nidrah Street, El Cajon, 92020

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First Thurs, Casa del Prado, Room 104
Prs: Ben Hardy—448-0659
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Rep: Barbara McCroskey—452-9734
6747 Welmer Street, San Diego, 92122

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5630 Bellevue Ave., La Jolla, 92037